

# **Impact of Mental Disorders on IED Soldiers: WRAIR Psychiatric Research**



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# Overview

- MJ and Attrition
- Epidemiological Insights
  - US Teens & Military Recruits
  - ACE Study & Implications
- Neuroscience Insights
- Intervention Options
- Research Goals



# **Mental Disorders: A Significant Threat to Readiness**

- 2nd leading cause of **soldier hospitalizations (15%)**  
(exceeded only by OB deliveries)
- Leading cause of **inpatient bed days (30%)**
- 5th leading cause of **ambulatory care visits**
- Leading cause of hospital-related **lost duty days**
- 10% of AD population **treated annually** for MH problems
- Leading cause of **premature attrition** from military



# Mental Health Care Use and Attrition

Cumulative Percent of AD Who Left Military Service  
Within Specified Time After First Ambulatory Visit,  
1997

	Mental Disorders (n=65,562)	15 Other ICD Illness Categories (n=857,490)
6 Months	27%	9% (range 6-19%)
1 Year	40%	18% (range 14-27%)

$p < 0.0001$  both comparisons, independent of age, gender, duration of service

# Reasons for Separation Following MH Hospitalization (Within Two Years)

Reasons for Separation (SPD Codes)	Mental Disorders (n=1174) No. (%)	All Other Diagnoses (n=3421) No. (%)
Completion of enlistment/retirement	152 (13%)	1562 (46%)
Misconduct/ court martial/ in lieu of trial	300 (26%)	229 (7%)
Personality disorder	194 (17%)	24 (1%)
Medical disability / severance	145 (12%)	531 (16%)
EPTS medical condition	133 (11%)	46 (1%)
Entry level/ unsatisfactory performance	81 (7%)	64 (2%)
Alcohol/ drug rehab failure	56 (5%)	10 (<1%)
AWOL	32 (3%)	48 (1%)
Weight control failure/ physical	27 (2%)	81 (2%)
Pregnancy	23 (2%)	634 (19%)

# Initial Costs...

## ONE SOLDIER COSTS:

- \$15,500 to recruit
- \$13,000 for BCT
- \$19,000 for AIT

**TOTAL COST per Soldier: \$47,500**

- 1/3 fail to complete their 3-year enlistment
- We loose 13.8% (8237) each year in IET alone

**TOTAL ARMY LOSS > 400M per year**

(One GAO figure put the DOD loss at \$1.2 billion per year)

# Early Attrition Data

- **Attrition within the first 6 months on active duty are fairly similar**
  - **11.9%, 15.5%, 16%, 16.1% accounting for approximately 3650, 6075, 5013, 8237 recruits for the Air Force, Navy, Marines, Army respectively**
- **Mental health problems for all services are major reasons for hospitalization in the first 6 months**
  - **21%, 26%, 49%, 54% of all hospitalizations in the first 6 months are for psychiatric conditions in the Marines, Army, Air Force, Navy respectively**

# IET Attrition and MH

Category	Total	% of Total
50% of EPTS	1972	18%
Failure to Adapt	3208	29%
Lack of Motivation	800	7%
Good of Svc	764	7%
Misconduct	331	3%
<b>TOTAL</b>	<b>7075/10926</b>	<b>65%</b>

Source: ATRRS ME September 2002 Data

Bottom line:

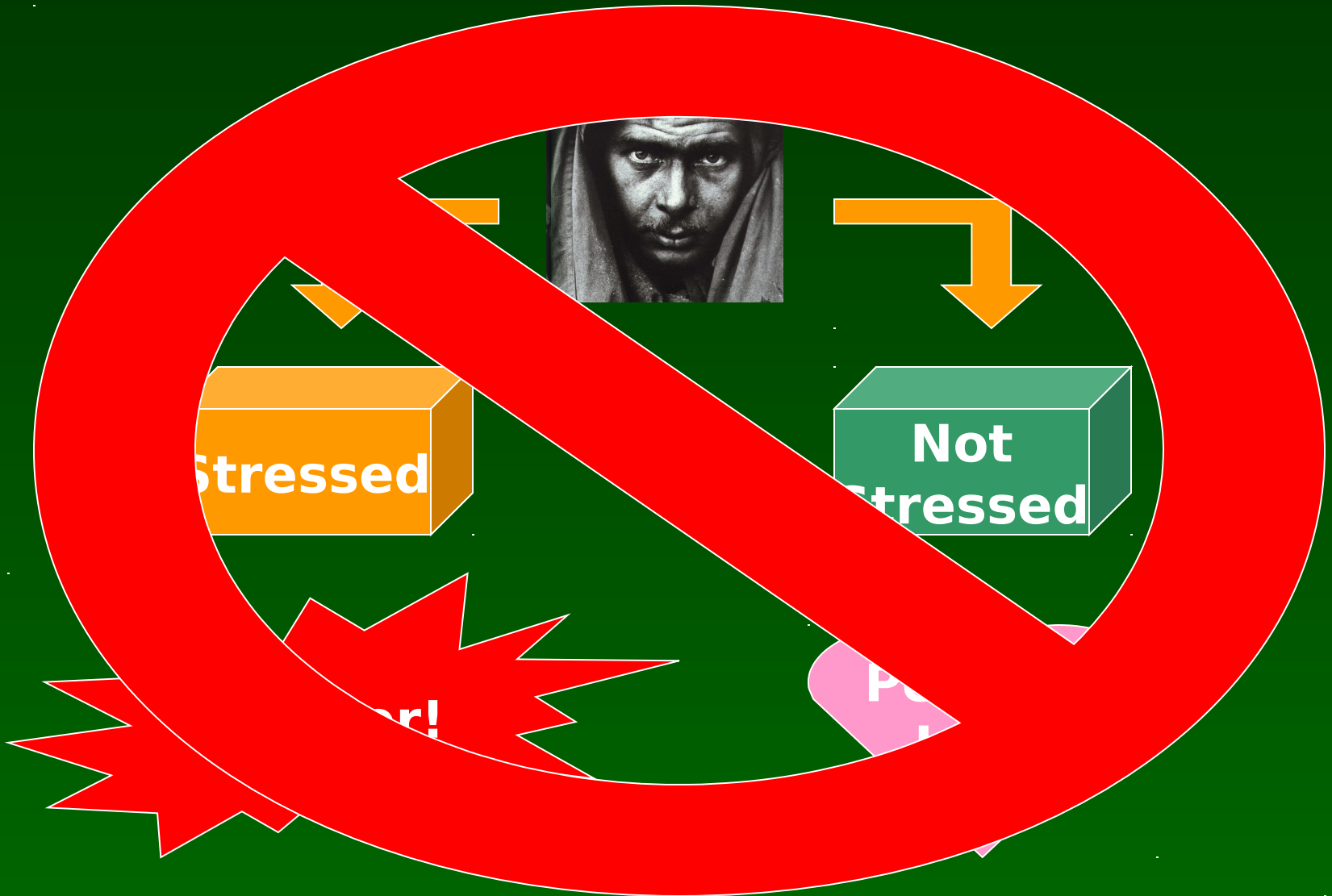
Helping 5% would save \$18,700,000



# Recruit to Fail...



# Old Stress Model



# Consider our

## “Inputs”

- Our current cohorts of DoD recruits arrive at IET with significant developmental “baggage”
  - approx. 40% self-report having been raised in homes where they were **physically &/or sexually abused &/or neglected\***
  - **> 40% come from ‘non-traditional’ homes without 2 consistent parenting figures\*\***
  - **> 20% of HS students had seriously considered attempting suicide during a 12 month period\*\*\***
  - **8% of HS students reported making a suicide attempt in the preceding 12 month period\*\*\*\***

\* data from Naval Health Research Center-Report #95-26: Pre-enlistment Maltreatment Histories of US Navy Basic Trainees: Prevalence of Abusive Behavior”

\*\* data from Zill & Robinson, “The Generation X”, *American Demographics*, April 1995, pp. 24-33

\*\*\* data from Centers for Disease Control(CDC) Youth Risk Behavior Surveillance 2000

\*\*\*\*data from National Strategy for Suicide Prevention, US Public Health Surgeon General, May 2001

# The ACE Study

- The largest study of its kind ever done to examine the health and social effects of adverse childhood experiences throughout the lifespan
- Summary of Findings:
  - Adverse Childhood Experiences (ACE's) are very common
  - ACEs are strong predictors of health risk behaviors in adolescence and adult life (ie. substance abuse, etc.)



# **“ACE” Study Population Data**

**Adverse Childhood Experiences  
(ACEs) are Common in the  
Population**

<b><u>Household Exposures:</u></b>		<b><u>Childhood Abuse:</u></b>	
<b>Alcohol abuse</b>	<b>23.5%</b>	<b>Psychological</b>	
<b>Mental illness</b>	<b>18.8%</b>	<b>1.0%</b>	
<b>Battered mother</b>	<b>12.5%</b>	<b>Physical</b>	<b>30.1%</b>
<b>Drug abuse</b>	<b>4.9%</b>	<b>Sexual</b>	<b>19.9%</b>
<b>Criminal behavior</b>	<b>3.4%</b>		

**\*Percent reporting types of ACEs**

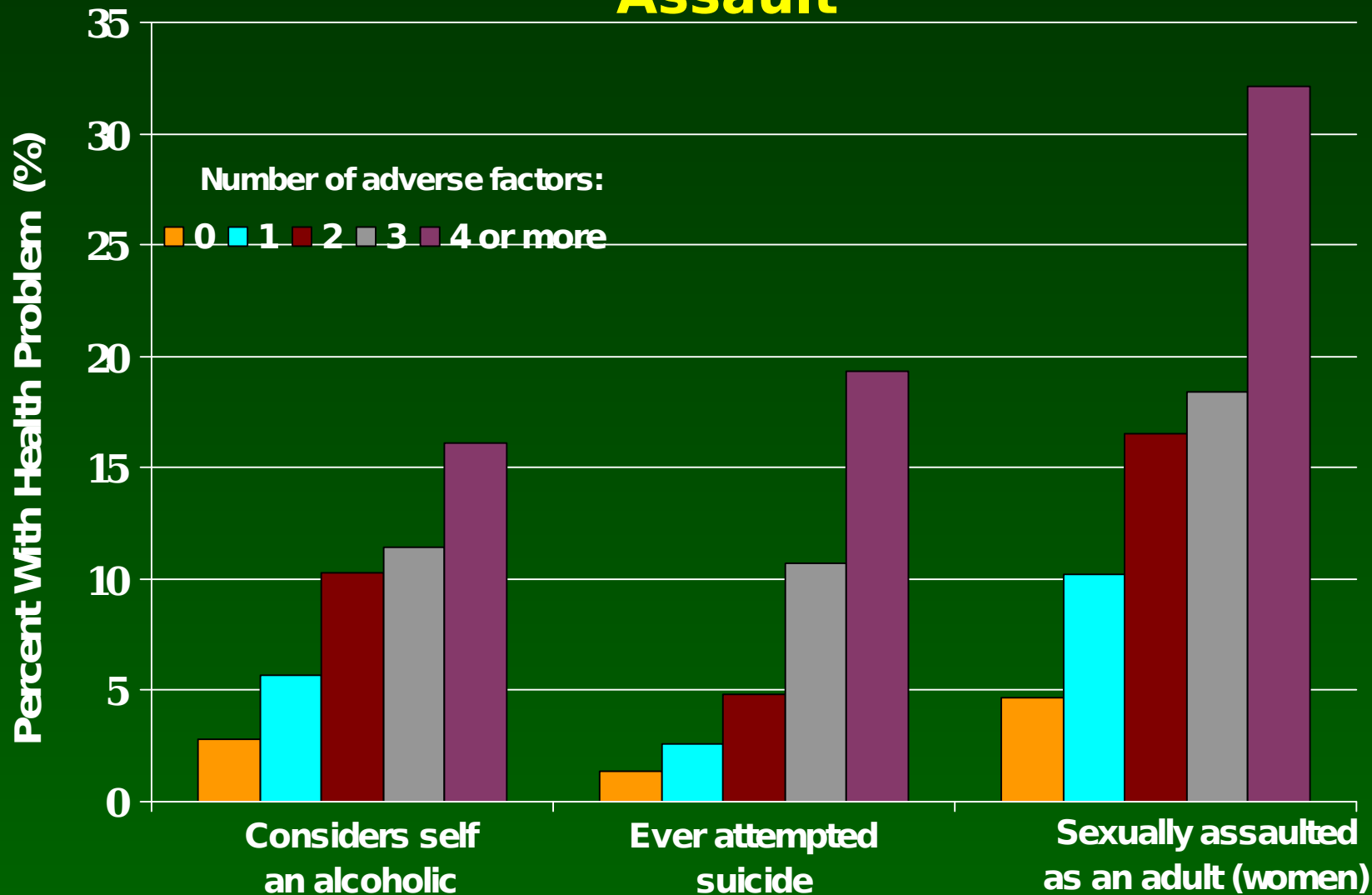
# “ACE” Study Population Data

ACE SCORE	PREVALENCE
0	47.9%
1	24.9%
2	13.1%
3	7.3%
4 or More	6.8%

- *More than half had at least one ACE*
- *More than one in four had 2 or*

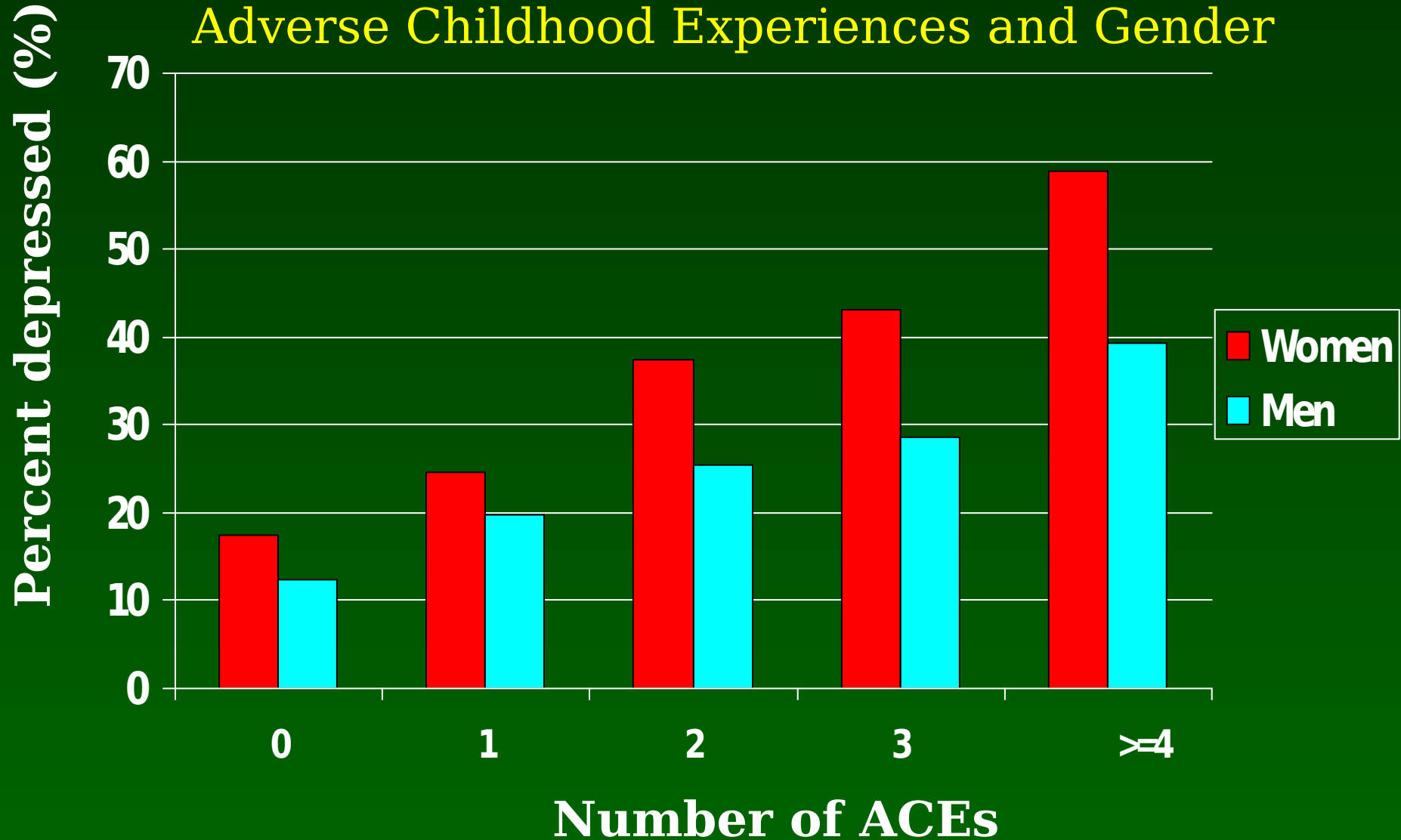
# ACE Study Population

## ACE Score and Alcoholism, Suicide Attempts, or Sexual Assault



# ACE Study Population Data

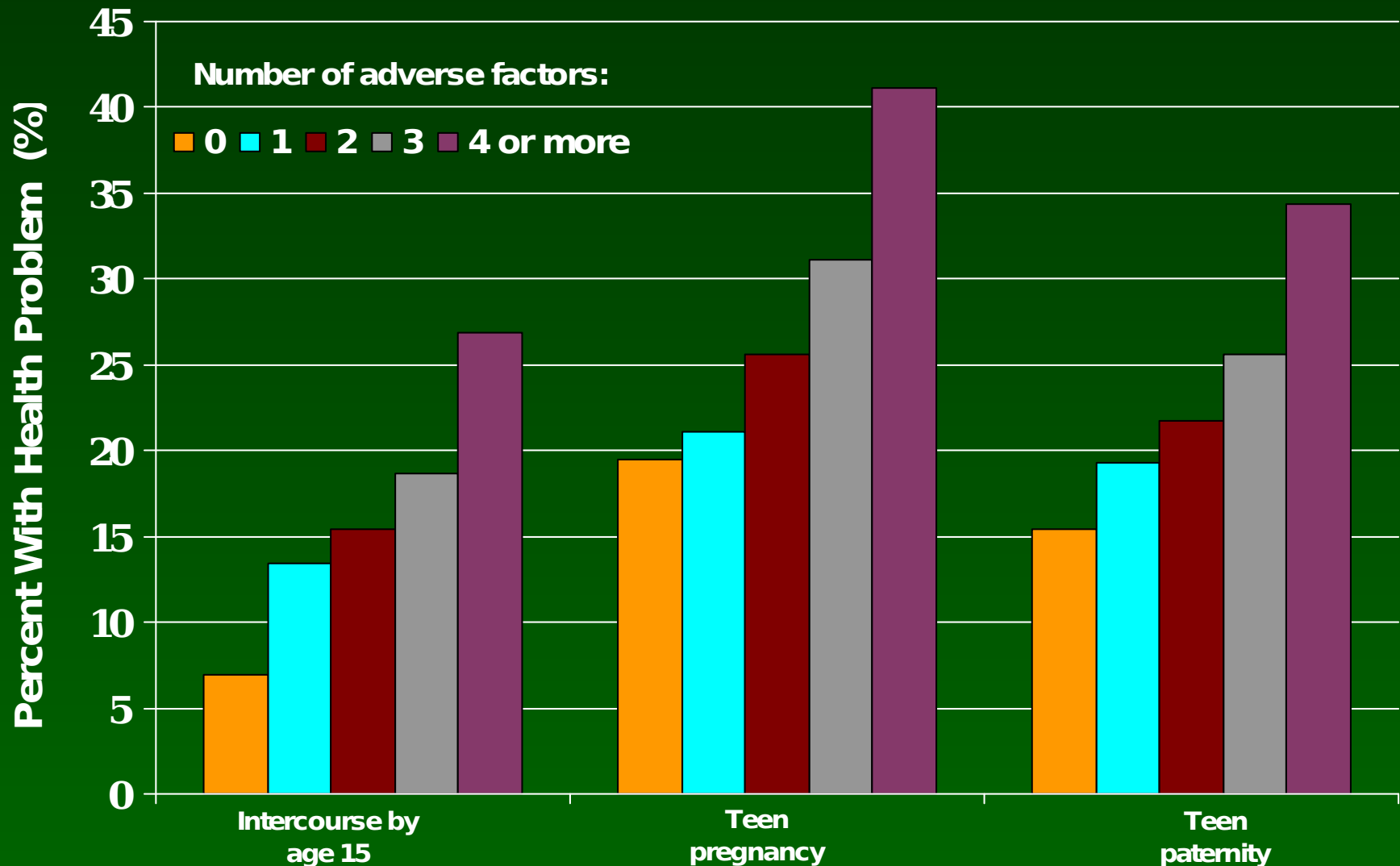
Lifetime History of Depression by Number of Adverse Childhood Experiences and Gender





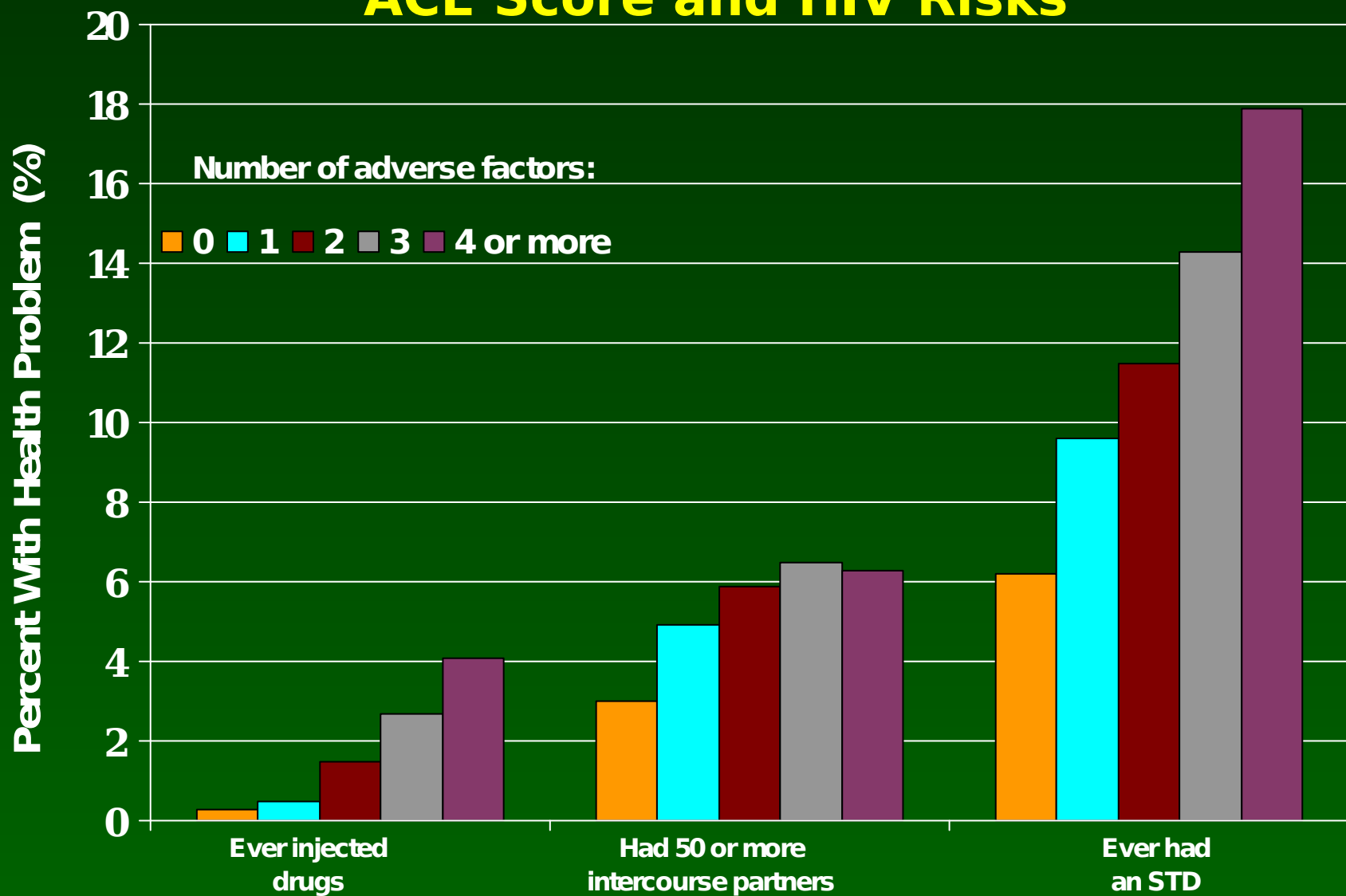
# ACE Study Population Data

Number of Adverse Childhood Experiences  
and Teen Sexual Behaviors



# ACE Study Population Data

## ACE Score and HIV Risks



# Life-Cycle Behavioral “Pitfalls”

## of the 1st term Soldier

Behavioral “pitfalls” that can lead to dysfunction, potential suicide behaviors & premature attrition:

- Promiscuity & Impulsivity
- Premature marriage and Parenthood
- Family Violence
- Distrust/Disdain of authority figures; Loyalty issues
- Excessive debt/\$ problems
- Dysfunctional behaviors resulting in UCMJ
- Inability to form positive supportive relationships
- Substance abuse & other major psychiatric disorders
- Family of origin problems - acute & unresolved from past

# ACEs & Suicide

One ACE →	2-5 times greater
Two ACEs →	30-50 times greater

- Only 1.1% of those with no ACEs attempted suicide
- Whereas, 35% of those with 7 or 8 ACEs attempted suicide

# A Model for Understanding Dysfunctional Health-Risk Behaviors

**Visible to Command**

**NOT Visible to Command**

**Behaviors: "Outcome" & Consequences**  
**Stressors: "Triggers" for Dysfunctional Behavior**

**Current Environment:** Work & Home Environments  
-supportive vs. non-supportive

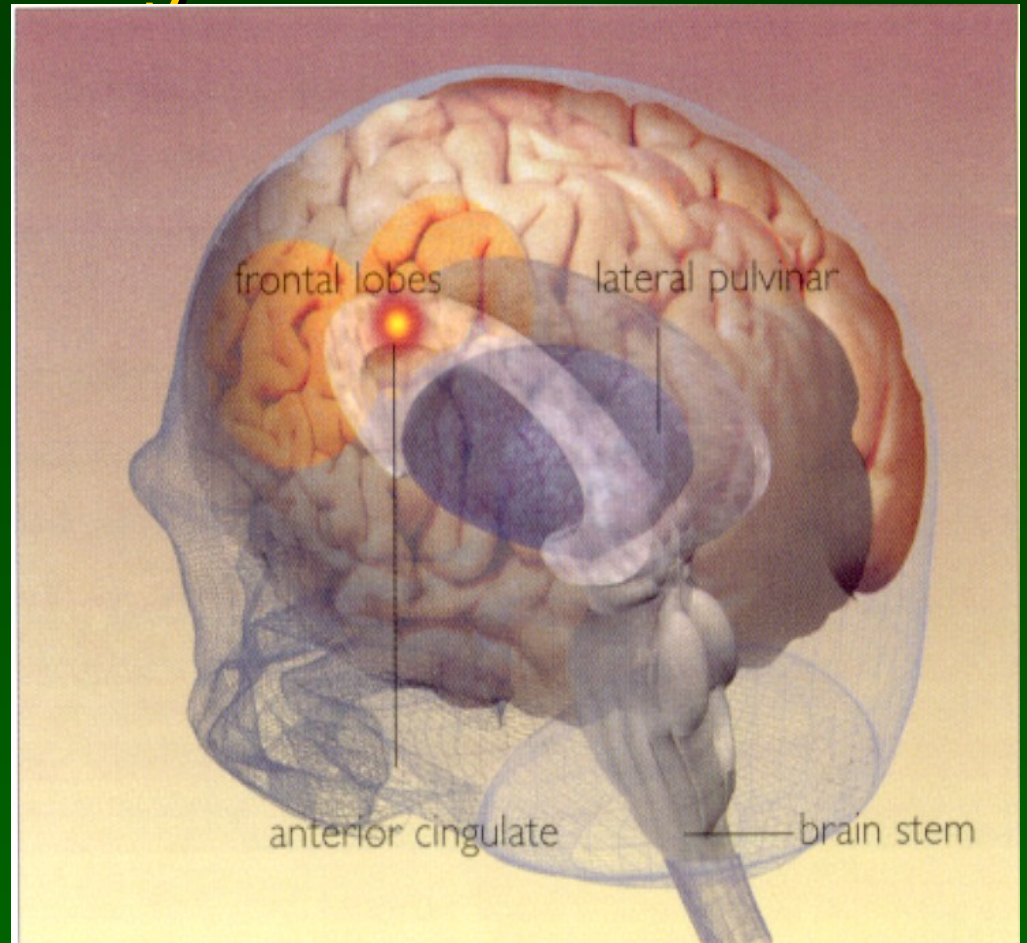
**Developmental History:** Consequences of Abuse, Trauma, ie. ACEs

**Genetic Vulnerability to Psychiatric Illness:**  
Psychiatric dz:  
- Schizophrenia  
- Mania  
- Depression  
- Substance Abuse

*"The best predictor of future behavior is past behavior."*

# Brain growth, development and function are affected by:

- Genetics
- Vectors
- Toxins
- Physical Trauma
- Poor Attachment
- Emotional Trauma
- Neglect



**Hyper-  
arousal**

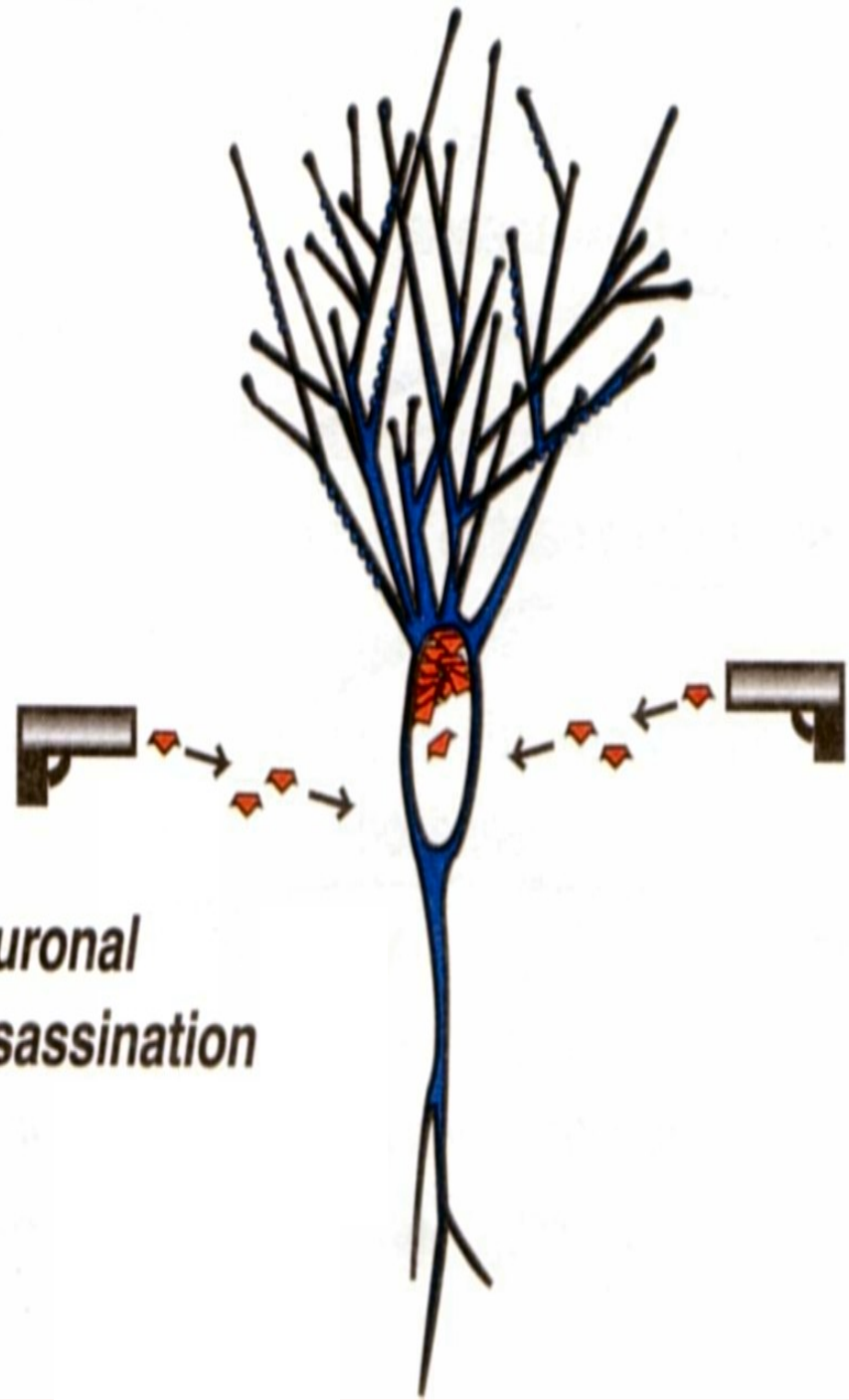


**Limbic  
Kindling**

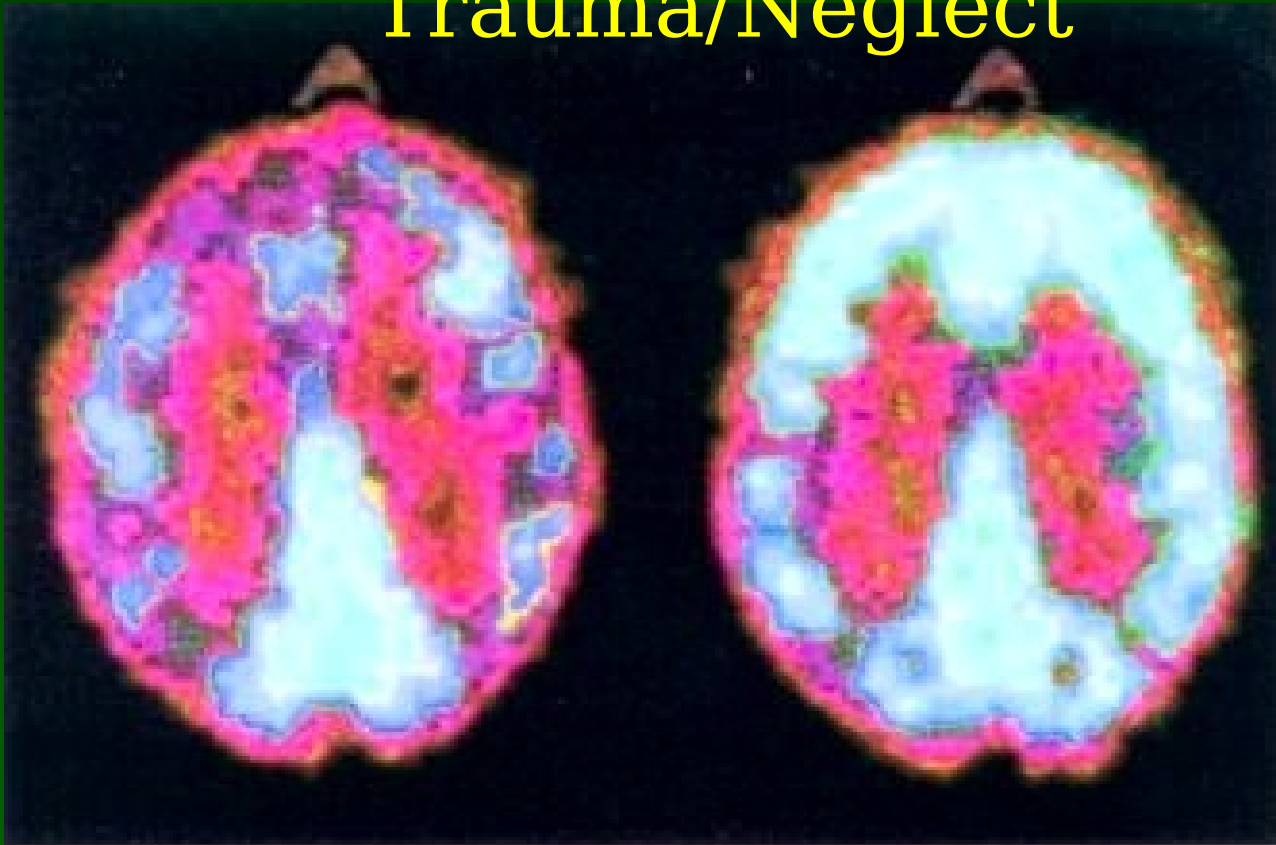


**Death of  
Neurons**

*neuronal  
assassination*



**Worst Case:  
No Precortical/Limbic  
Connections...  
Early & Persisting Severe  
Trauma/Neglect**



**Subject on right committed violent  
murder**



# ACE Trauma

- Trauma Results From:
  - Intense inappropriate negative affect (fear, anger)
  - Abrupt disruption to the dyadic connection
  - Failure to repair disrupted connection
  - Failure to sooth psychic pain
- The Most Damaging Trauma:
  - Occurs within the care-taking relationship
- Abuse/Neglect:
  - May be developmental-stage dependent...

**When the Tender Years  
Have a Lot of This...**



# Feelings Swing Wildly in Later Years



To this



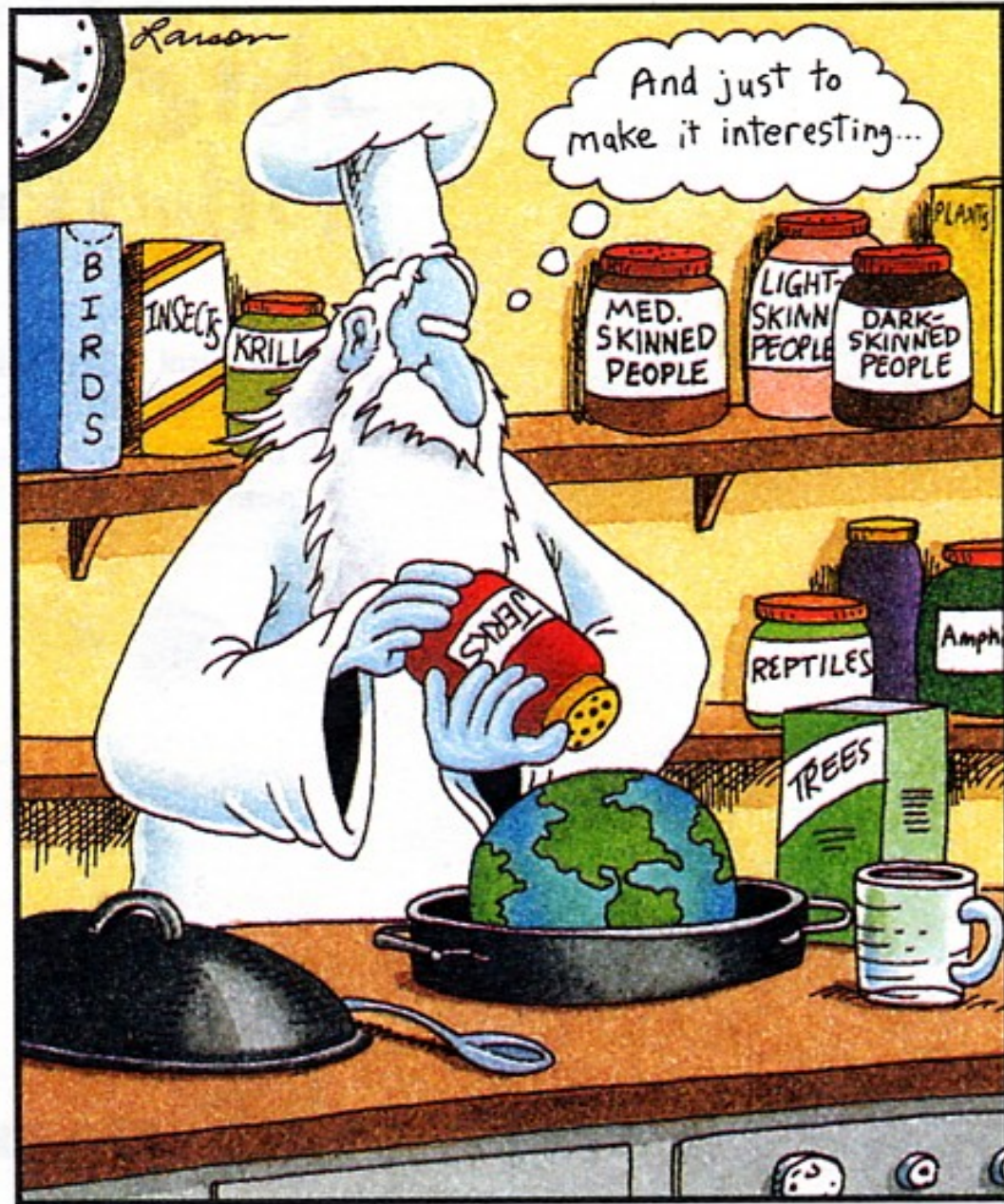
# ACEs Lead To:

- Hyper-Arousal:
  - Fight/Flight; Vigilance ; Startle Response
  - Attention; Memory; Learning; emotional functioning; “emotional memory;”  
Hippocampal damage
- Disassociation:
  - Defeat response; “Learned Helplessness;”
  - Disengaging from the external world and attending to stimuli in internal world (avoidance, numbing, derealization, depersonalization)

# Bottomline

- Trauma Impairs Emotional Understanding & Emotional Response
- Over time, these impairments become part of and skew personality.
- Personality Traits/Disorders are the end result of damage to areas of the brain that make emotional sense of the world.

# Gary Larson's Theory of Personality Disorders

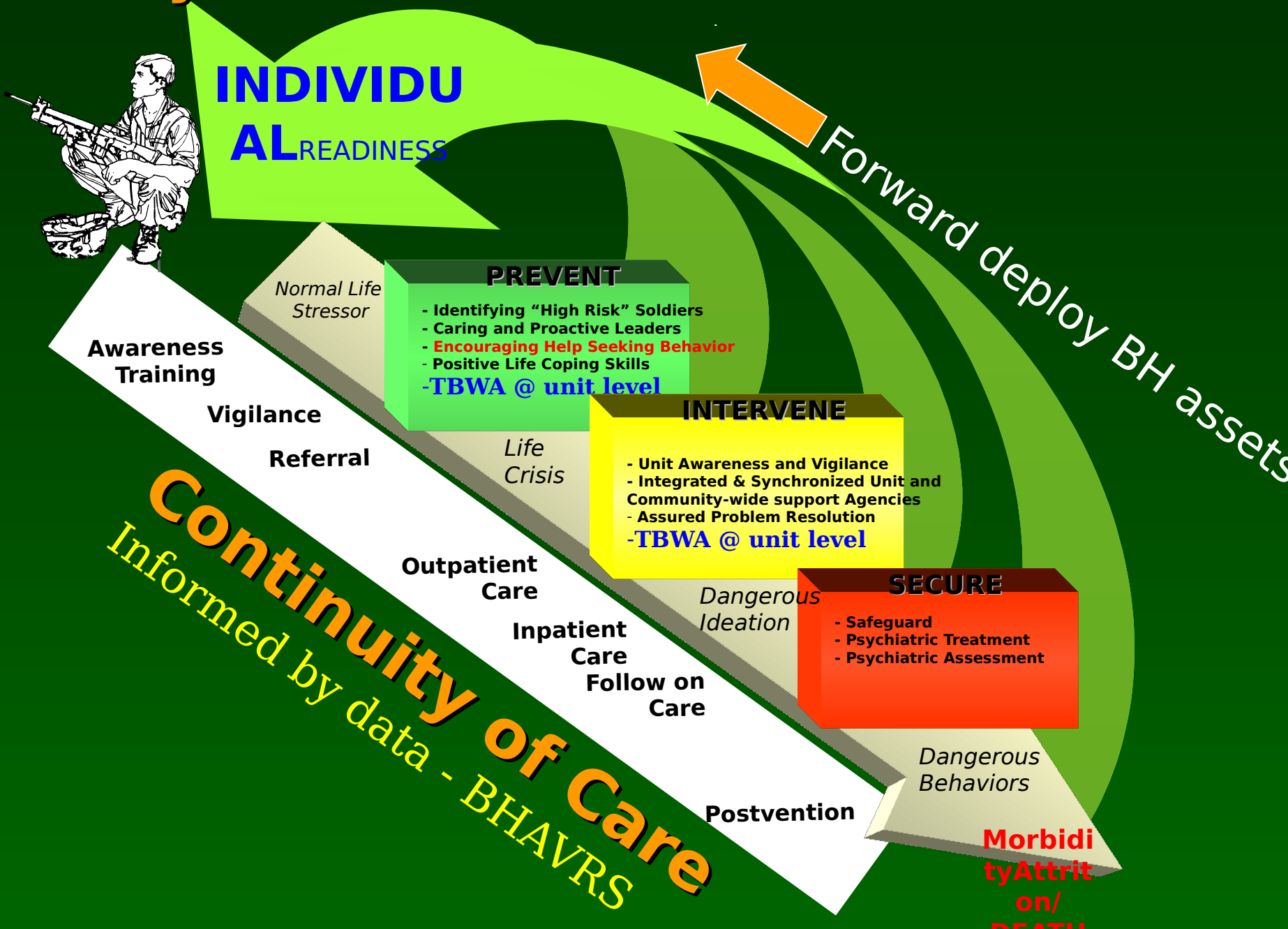


# The Good News!!!

- The brain keeps growing and changing
- Trauma induced brain damage can be prevented and/or repaired:
  - Healthy corrective relationships
  - Therapy/CBT
  - Medications



# Army Behavioral Health Prevention Model





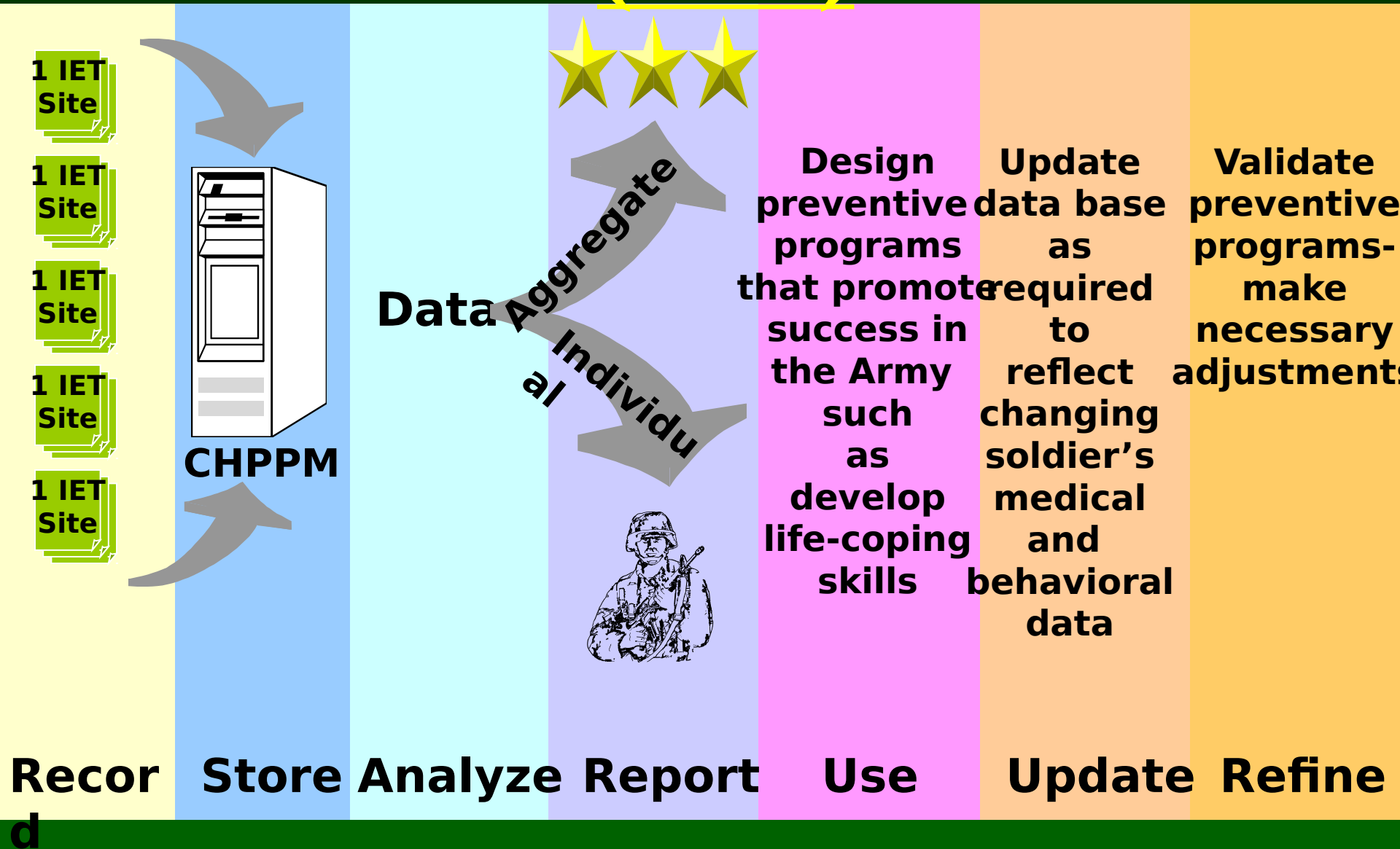
# EXPECTED OUTCOMES

- Crisis behavior ↓
- AWOL ↓
- Sick Call ↓
- Training interruptions ↓
- CMH activity level ↓
- Treatment & return ↑
- Retention ↑

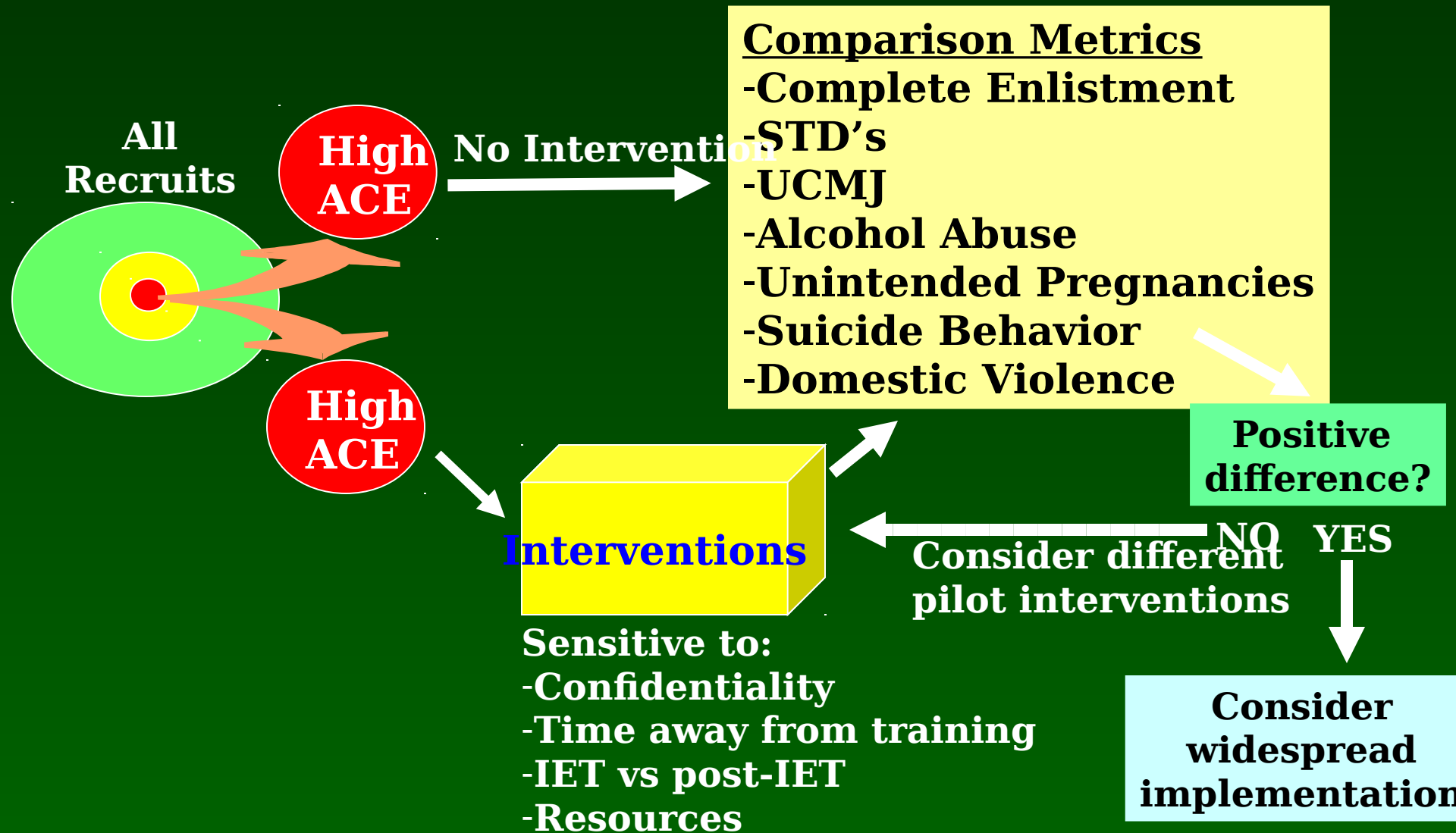
# **IET Resources for Living**

- **Proper Screening/Monitoring**
- **Healthy Corrective Relationships**
- **Life Skills Groups**
- **Mentorship Program**
- **Use combat stress control principles for prevention and**

# Recruit Assessment Program (RAP)



# Potential Future Intervention Studies

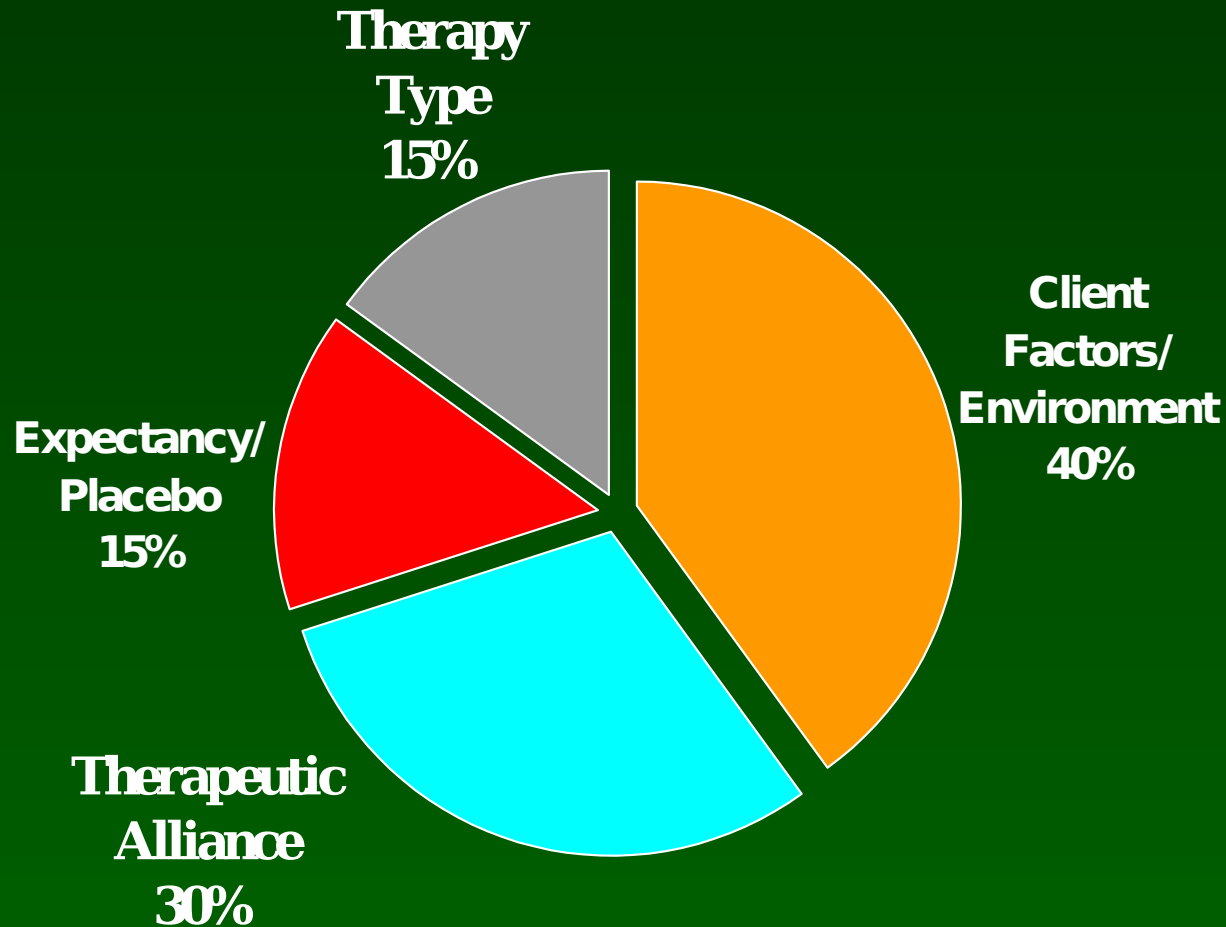


# Embrace Connection

- Denial of interconnectedness
- Myth of individuality
- Discounting of relational objects, processes, and providers



# What drives Change in Therapy:



“At its core, the therapeutic relationship remains an intensely human, personal, and essentially unique encounter”  
(Bachelor & Horvath, 1999)





# Life Skills in IET...



"You know, we're just not reaching that guy."



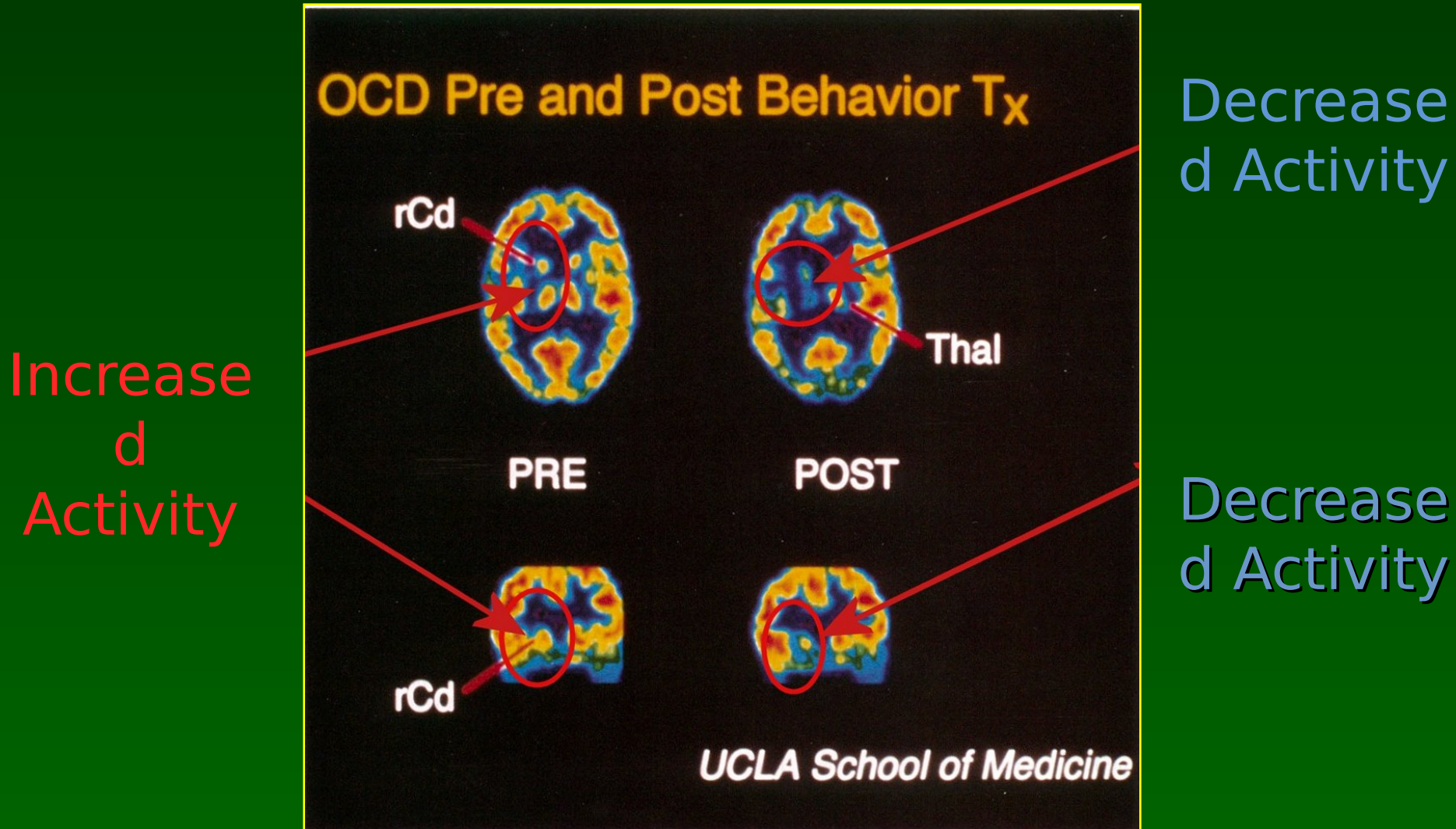
# Life Skills Training

- Communication Skills
- Problem-Solving Skills
- Self-Mood Regulation
- Understanding Others
- Evaluating Life Expectations
- Financial Management
- Coping in Groups & Organizations

# Life Skills and CBT

- CBT to 'teach' these concepts to soldiers
- Develop capacity to put self in context:
  - Accurately predict/anticipate stress and its impact
  - Understand and control maladaptive responses
  - Know and utilize available resources

# CBT decreases Over Activity in the Right Caudate in OCD



# Mentorship Program

- Non-cadre NCOs and retirees (mentors)
- Mentoring in the Unit Area of Operations
- Provide guidance, connectedness, and affirmation
- Trained in ASIST, mentoring, and community resources

# Use of Combat & Operational Stress Control (COSC) Principles

- Reduce Stigma (of them and us)
- PIES:
  - Proximity = Treat Far Forward
  - Immediacy = Treat ASAP
  - Expectancy = Expect Recovery / Instill Hope
  - Simplicity = KISS Principle

# “Prevention Intervention”

Must be:

- Proactive – Come to them
- Attuned to stage of change
- Short term but sufficient (8-10 sessions)
- Applied as early as possible in lifecycle
- Non-stigmatizing
- Hopeful; encouraging; expectant
- Relationship-driven



# Key Research Questions

- Can we reduce attrition in IET related to mental / behavioral problems through mental health (MH) interventions?
- Which interventions are most effective?
  - E.g.: CBT, Life skills training, mentoring, other modalities
- Can effective MH screening tools be developed?
  - Screening for selection (MEPS): SBIR AMSARA project
  - Screening for early intervention / prevention (IET / 1<sup>st</sup> duty station): RAP



# Future WRAIR Plans

- Establish research effort:
  - Studies to better define factors that predict high attrition (e.g. RAP)
  - Intervention studies focused on reducing IET and 1<sup>st</sup> term attrition related to mental / behavioral health problems through programs that enhance soldier resiliency and ability to cope with stress.
- Timeline:
  - FY O3: Establish personnel and funding
  - FY O4: Write / obtain approval for protocol(s), Staffing of studies with TRADOC leadership
  - FY O5-O6: Initiate intervention protocols (e.g. CBT / life skills coping / mentoring programs in basic and AIT)
  - FY O7-O8: Refine / replicate studies and transition results to policy



# QUESTIONS?

